Automotive Experience - Americas
49200 Halyard Drive, Plymouth, MI 48170
Tel (734) 254-5657

Johnson Controls

December 17, 2015
United States Environmental Protection Agency
RCRA Corrective Action
77 West Jackson Boulevard
Chicago, Illinois 60604-3590
Attention: Mr. David Petrovsky

Re: Interim Actions Planned Prior to Final Corrective Measures Proposal Submission
232/290 Monroe Street, Saline, Michigan
USEPA ID No. MID980795512

Johnson Controls, Inc. (JCI) has prepared this letter to formally notify the USEPA regarding a change in JCI's plans for implementing corrective measures at the former Washtenaw Industrial Facility at 232/290 Monroe Street in Saline, Michigan ("Site," see Figure 1). As discussed with you during telephone conversations in 2015 and as summarized in our Final Corrective Measures Proposal (FCMP) Outline (submitted via email on September 18, 2015), JCI had planned to submit the FCMP for Agency review prior to implementing final corrective measures for the site. However, we now plan to perform Interim Actions to address remaining exceedances and then submit the FCMP.

JCI has decided to perform Interim Actions prior to FCMP submittal to limit investigation and risk assessment and to immediately begin work to address nuisance odor concerns raised by residents living near the site. The nuisance odor concerns were brought to JCI's attention after concrete slabs and foundations were removed from an area on the eastern portion of the site (Figure 2).

Completing Interim Actions prior to submission of the FCMP is addressed in Paragraph 12 of the AOC. JCI plans to communicate closely with the Agency during execution of Interim Actions so that you are fully informed regarding progress and schedules. Although the Interim Action route will delay submission of the FCMP, we believe that the approach will lead more quickly to a remediated site and proactively address concerns raised by nearby residents.

JCI appreciates your time during our November 18, 2015 telephone conversation regarding our plans to implement Interim Actions, and your review of the December 2, 2015 version of this letter. Prior to implementation of the items described below, JCI will prepare more detailed scope of work documents and provide a copy to Region 5. Planned Actions are described in the following paragraphs.

Soil Removal Interim Action:

A soil Interim Action will be completed to address an arsenic detection in the southwest portion of the site at location 2SW-4. An additional soil Interim Action will be completed at an area immediately outside the fence in the northwest portion of the site. (Refer to Figure 1)

Preparatory Work:

A sidewall confirmation sample (2SW-4), collected from Interim Action Excavation 2 (at a depth of 2 feet below ground surface) had a reported arsenic concentration of 58,000 ug/kg, which exceeds the MDEQ Part 201/Part 213 non-residential direct contact criterion of 37,000 ug/kg. The site fencing in this area must be removed prior to executing the removal action. Representative samples from the proposed area will be collected and analyzed for characterization for offsite disposal. Landfill acceptance of the waste will be arranged prior to the start of excavation work.

An offsite sample location (SB-3) had a reported arsenic concentration of 7,890 ug/kg that exceeds the MI Part 201/213 Residential Direct Contact screening level of 7,600 ug/kg. In order to access this area for further investigation and removal the existing fencing must be removed and temporary fencing installed to restrict site access during the work. Nearby samples collected in this area were below residential criteria. The area will be further delineated and characterized for offsite disposal prior to the removal activities. Landfill acceptance of the waste will be arranged prior to the start of excavation work.

Removal Action:

A soil removal Interim Action to a depth of 3 feet over the 452 square foot area (50 CY total) will be completed for the southern area. The excavation will remain open until floor and sidewall confirmation samples results confirm that the removal action is complete before backfilled with clean fill and fence restoration.

Soil will be removed to a maximum depth of 4 feet over an approximate area of 1,000 square foot in the Northern residential exceedance area. The actual removal area will be based on additional delineation performed above. Based on available data the removal volume is estimated to be 148 CY of material. Sidewall and floor confirmation will be collected to confirm the excavation is complete prior to backfilling the excavation

Confirmation:

Sidewall and floor confirmation will be collected from both excavation areas to confirm the removal work is complete prior to backfilling the excavation. The confirmation samples will be analyzed for metals utilizing EPA Method 6010/6020.

Once backfill, compaction and restoration has been completed, the fence will be restored to its original alignment.

Volatile Organic Compound (VOC) Area

The VOC area is located on the east side of the site in an area that was previously covered by concrete. The area is impacted with VOCs consisting primarily of 1,2-dichororbenzene (12DCB) and trichloroethene (TCE) (Figure 2). Both compounds are below MDEQ's non-residential direct contact generic screening level. During the concrete removal several odor complaints were made to the City.

Preparatory Work:

12DCB exceeds the generic soil saturation screening level (Csat) at one location (08GP24) collected 7 feet below ground surface. The odor threshold for 12DCB is 2-4 ppm according to the America Industrial Hygienist Association (AIHA). TCE exceeds the ambient air screening criteria (Finite Volatile Soil Inhalation for 2 Meter Source Thickness) of 58,000 ug/kg modified to 66,700 ug/kg due to impacted area being limited to less than ¼ acre in accordance with foot note (Y) at sample point 08GP26. The VOCs exceedances were reported in a silt/silty sand surrounded by clay. Perched groundwater, 4-5 feet in thickness, at a depth of approximately 14 feet is present in the VOC area. The area is underlain by a glacial clay that occurs at approximately 18 feet below ground surface and is over 70 feet thick.

As shown in Figure 2 sixteen (16) borings will be advanced to the lower clay (approximately 18 feet), continuously logged, and sampled to characterize soils in the area for VOC by EPA Method 8260. Each boring will be completed as 2-inch PVC well with a 10 foot screen. Groundwater samples will be collected from each well to characterize perched groundwater and analyzed by EPA Method 8260.

To address the impacts, a containerized soil vapor extraction (SVE) and air sparge (AS) system will be mobilized to the site for combined pilot study and remediation purposes. The system has the capability to extract up to 40 SCFM from the subsurface and sparge up to 13 SCFM to the subsurface. A power drop will be installed to electricity for the system. The system discharge will be equipped with at least two vapor phase granular active-carbon (VGAC) vessels in series and operated in accordance with Michigan Rule 290 for controlled emissions. Pilot study operations will consist of

Automotive Experience - Americas
49200 Halyard Drive, Plymouth, MI 48170
Tel (734) 254-5657

Johnson Controls

running each well as SVE with influent monitoring by photoionization detector (PID) frequently and one representative sample collected and analyzed for USEPA method TO-15 for each point. Adjacent wells will be equipped with vacuum gauges to observe and calculate radius of influence for each well during the study. Based on the results of the study, the operation of the SVE system (i.e., vacuum rate for the system, which wells operate when and for what duration) will be finalized.

Operations:

Once the pilot study has been completed the system will be operated under the initial configuration. The carbon will be monitored weekly by PID and monthly with one representative sample collected and analyzed for USEPA method TO-15. The impacted individual wells will be tested again similar to the pilot study once per quarter to evaluate remaining mass locations and evaluate remediation of the unsaturated soils in the area. Based on these results the system will be optimized as needed, which may include the installation of additional well locations on the perimeter, until mass removal approaches asymptotic conditions.

Once the soil mass has been removed and documented, wells with the highest groundwater concentrations will have well sparge points installed. The system will intermittently sparge air while SVE is being performed on the same well. Discharge will again be monitored with PID weekly and TO-15 samples monthly. Once per quarter each well will be sparged with SVE running and sampled via PID and TO-14. The mass removed will be documented to evaluate progress and allow for system operation optimization. The system will be operated until asymptotic levels are reached.

The VGAC will be replaced when significant breakthrough is observed between the vessels. A new VGAC will be placed in lag position and the former lag vessel placed in the lead position. VGAC will be regenerated by the carbon vendor.

Confirmation:

After asymptotic influent vapor conditions occur, the system will be shut down for three months, groundwater samples collected from each well, and rebound testing of both soil and water of the system will be completed. If the data does not suggest a problem remains, soil samples will be collected to demonstrate compliance with MDEQ's non-residential criteria utilizing EPA Method 8260.

Sediment Removal

The sediment data for the site were evaluated using the Mean PEC Quotient for Metals, PCBs and PAHs. This analysis was performed in accordance with Wisconsin Department of Natural Resources, Consensus-Based Sediment Quality Guidelines, Interim Guidance dated December of 2003. The Mean PEC Quotients were calculated for all sediment samples collected at the site. All but 8 sample locations were below the toxicity threshold of 0.5. The eight locations that require removal due to Mean PEC Quotients >0.5 are SS-2, SS-4, SS-17, SS-20, SS-21, SS-29, SS-30 and SS-31. Figure 3 shows the location of the sediments that required removal. With the exception of SS-4, all locations area beneath or downgradient of the Monroe Street bridge along the north bank of the Saline River.

Preparatory Work:

In order to perform this work, a MDEQ/USACE Joint Permit must be obtained. This process will require preparation, process and review time to implement and may take greater than 180 days depending in public comment requirements. Work plan drawings will be developed to accompany the permit application. These drawings will show areas for access, excavation, soil mixing/stabilization, and transportation routing, as wells as plans for placement of turbidity curtains and turbidity monitoring.

Treatability testing will be completing on river sediments prior to the removal effort. The ratio of sediment to portland cement will be determined in the laboratory so that excavated material can be stabilized for transportation to a landfill. TCLP analysis will be completed on the stabilized material for waste profiling purposes.

The need for additional preparatory work will be determined during an on-site pre-permitting meeting with the MDEQ. Additional work may include items such as wetland delineation, an Indiania Bat survey, etc.

Removal Action:

The SS-4 location is well characterized and consists of PAH impacts only with an area of 58 SF with a sediment depth of 1-2 inches. Assuming a 1 foot removal depth, the approximate removal volume is 2 CYs at SS-4. The area below the bridge consists of a combination of PAHs and PCBs with concentrations below 50 PPM. The removal area is approximately 4,400 SF with an average of 3 feet across the area and removal volume of approximately 490 CY. The total removal volume for the two areas is 492 CY.

Turbidity curtains will be placed in the river prior to sediment removal. The curtains will be anchored with metal posts and positioned so that water flow is not fully obstructed (i.e., flow will bypass the excavation area). Turbidity monitoring will be performed upstream and downstream of the excavation area. Sediments will be removed with an excavator fitted with a perforated bucket. The bucket will allow water to be decanted from the bucket within the curtained area. The excavated material will be stabilized in accordance with the findings from the treatability testing, characterized and disposed of offsite.

Confirmation:

Sediment excavation areas and depths will be surveyed to verify removal. After surveying, confirmation samples will be collected and analyzed for PAHs and PCBs. The removal areas will not be backfilled.

Institutional Controls and Groundwater

In addition to the Interim Action work summarized above, institutional controls consisting of deed restrictions will be placed on the property. At this time, we plan to (a) restrict the use of the perched water at the site as a drinking water source, (b) restrict the site for only non-residential use, and (c) restrict excavation at the site without prior preparation of a health and safety plan so that workers are protected. Other restrictions as appropriate may also be placed on the property after Interim Action work is complete.

Review of groundwater sampling data indicates that with the placement of deed restriction (against use of the site's perched water as a drinking water source) the site complies with MDEQ's non-residential groundwater criteria. Quarterly groundwater samples will be collected from all wells for a one-year period (four sampling events) to verify compliance with non-residential criteria.

In summary, JCI plans to perform Interim Actions as summarized above to address remaining exceedances and then submit the FCMP after Interim Actions are complete. Prior to implementation of the items described below, JCI will prepare more detailed scope of work documents and provide a copy to Region 5. JCI would like to discuss Interim Action plans with the City of Saline during their January 11, 2016 Council Meeting. We are available to discuss this letter at your convenience. I can be reached at (734) 254-5657.

Automotive Experience - Americas
49200 Halyard Drive, Plymouth, MI 48170
Tel (734) 254-5657

Johnson Controls

Sincerely
Johnson Controls, Inc.

Michael L. Stoelton
Director of Environment Affairs

Cc: Drew Lonergan CTI

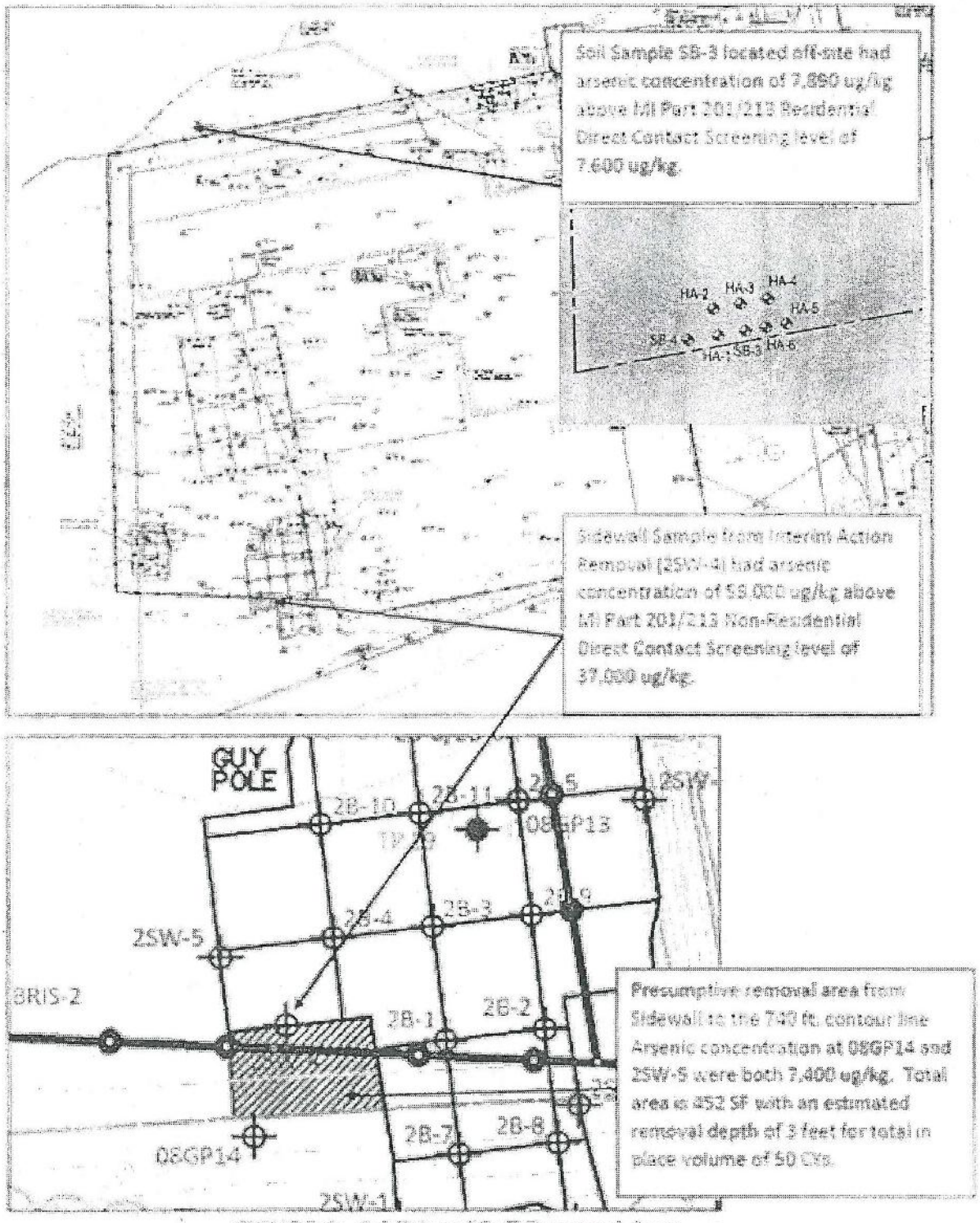
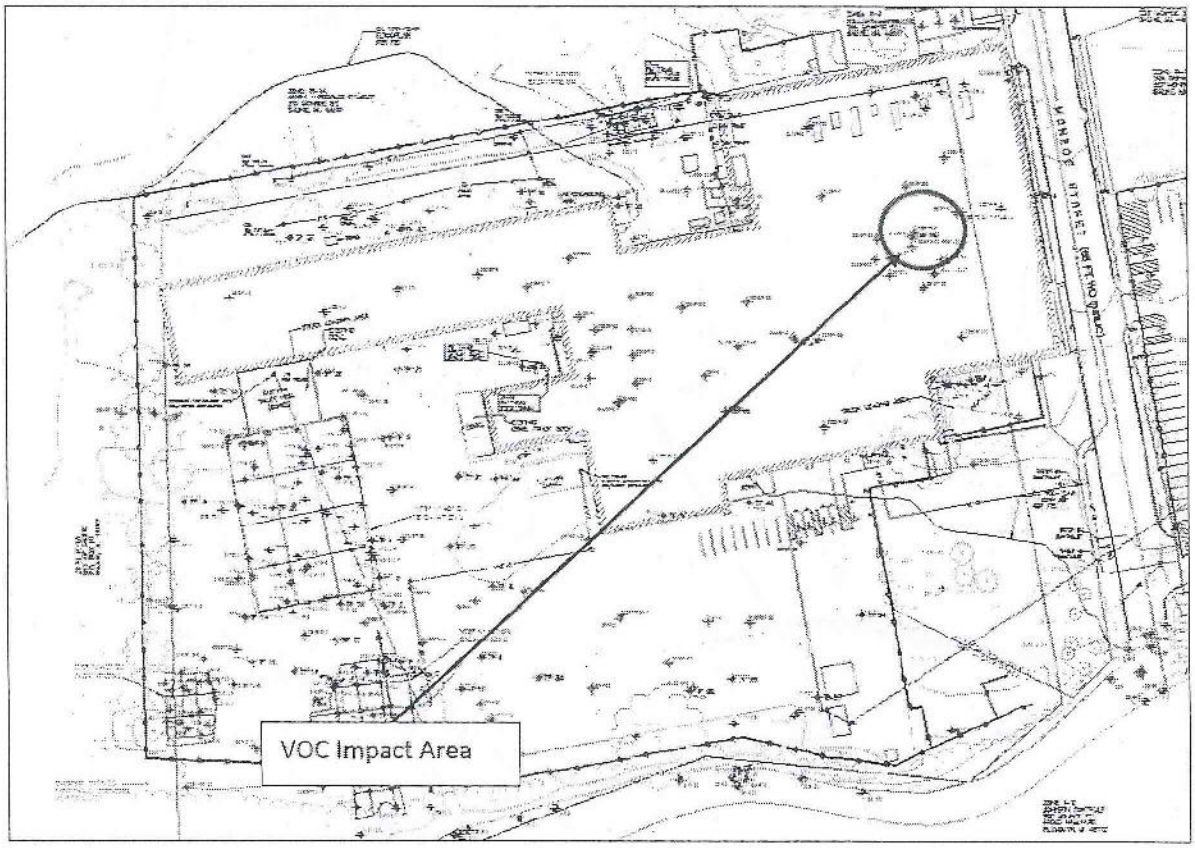


FIGURE 1: Additional Soil Removal Area

Automotive Experience - Americas
49200 Halyard Drive, Plymouth, MI 48170
Tel (734) 254-5657

Johnson Controls



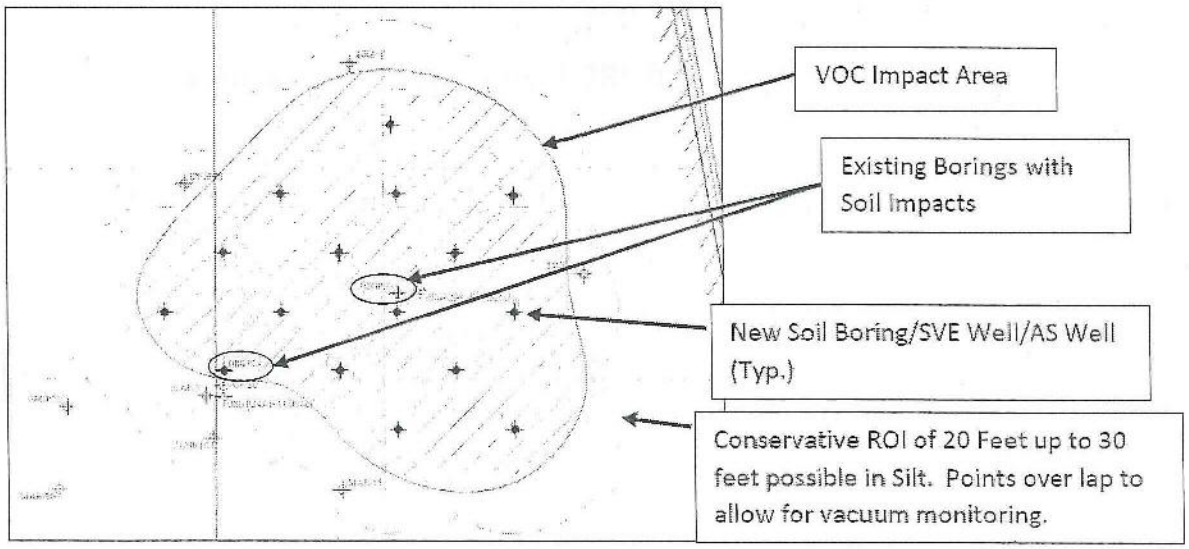


FIGURE 2: VOC Area AS/SVE Well Locations

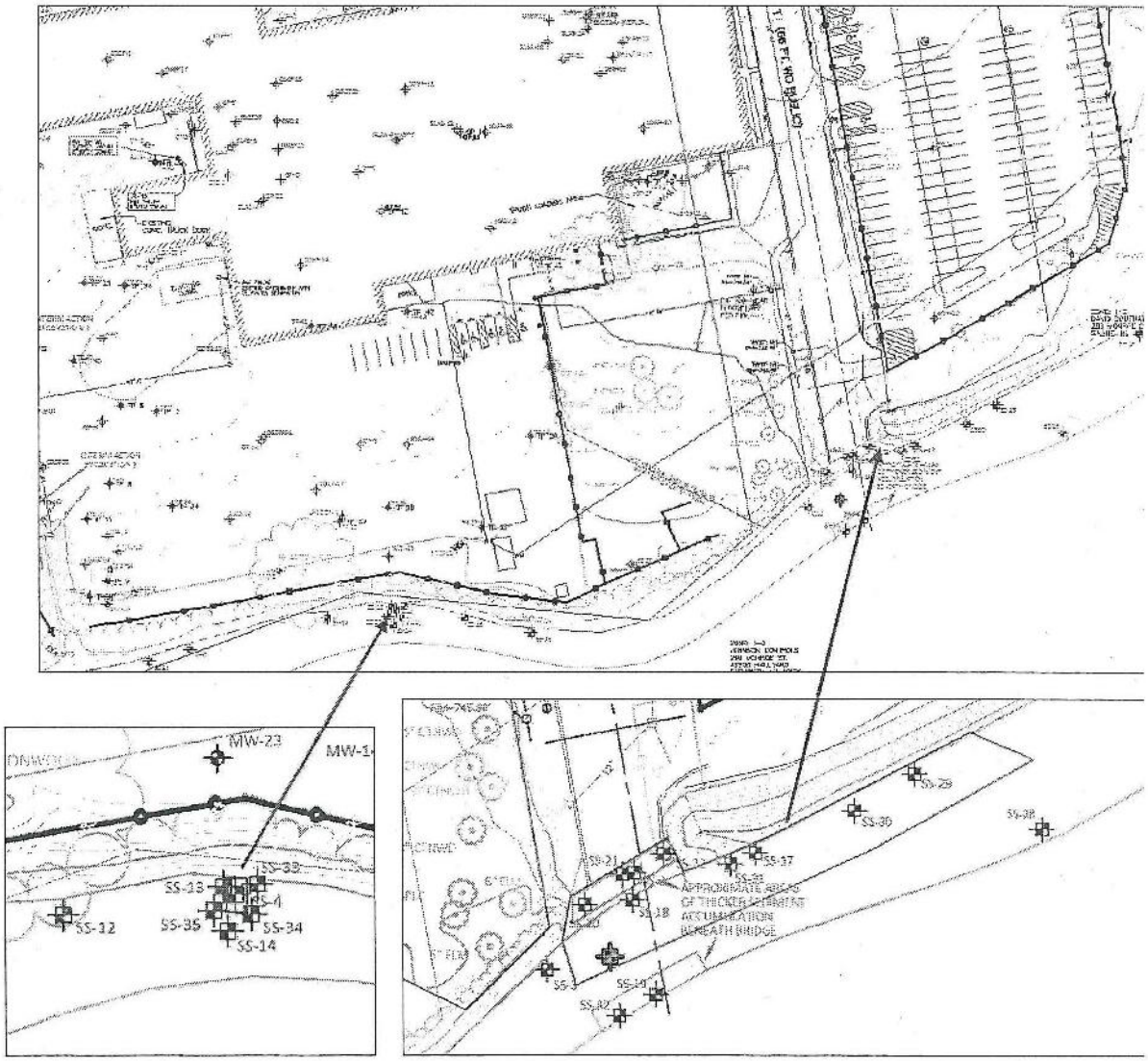


FIGURE 3: Sediment Removal Areas